DELAY INVERSELY PROPORTIONAL TO TEMPERATURE TIMER CIRCUIT

ABSTRACT OF THE INVENTION

A timer circuit is disclosed. The timer, having a delay configured to track inversely with temperature of the memory device, includes a reference signal configured to increase in voltage as the temperature of the memory device increases. The reference signal may be generated from a current that is derived from a bandgap reference circuit. The timer circuit includes a pull-down path made up of a plurality of selectable pull down transistors which are coupled to the reference signal at the gate. Resistance of the pull-down path is reduced as the reference signal is increased and the reduced resistance of the pull-down path decreases the delay of timer. A plurality of selectable delay elements may be preconfigured to adjust the delay and are coupled to the output path of the current starved inverter.